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Technology Transfer

METHOD FOR THE SELECTION OF MODULATORS OF BDNF

An innovative system for studying and diagnosing nervous system diseases

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Life Sciences
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Brief description

Object of this invention is the creation of a cell-based screening assay to screen for natural or synthetic compounds able to increase or decrease the neurotrophin Brain-derived neurotrophic factor (BDNF) protein levels produced by translation of the different BDNF mRNA variants. BDNF is a brain produced protein essential for the normal development of neurons and the maintenance of neuronal architecture, as well as plasticity mechanisms involved in learning and memory. Together with its neuroprotective proprieties, BDNF production works as main agent in the treatment of neuropsychiatric and neurodegenerative diseases.

Innovative aspects and main advantages

BDNF is one of the major pharmaceutical targets in psychiatric diseases including mood disorders, eating disorders, stress disorders, autism and schizophrenia, as well as neurodegenerative disorders, and mental retardation syndromes. BDNF growing market looks for highly standardized screening system able to identify natural or synthetic compounds that increase or decrease the translation of BDNF. This invention enables to promote mental well-being and reduce neurodegenerative and senescence processes while preventing from side effects caused by antidepressant and antipsychotic drugs. This screening method grants an efficient and cost saving screening service.

Applications

This system for the identification of specific compounds able to modulate BDNF may be a critical success factor for the treatment of neurological and neuropsychiatric diseases and the treatment of deleterious effects related to the abuse of illegal or legal drugs.

Potential market

The whole pharmaceutical industry should be interested in cell-based screening assays for drug development and translational medicine.

Development status

Technology validated at lab level.